

May 23, 2006

VIA HAND DELIVERY & ELECTRONIC MAIL

Ms. Debra A. Howland
Executive Director and Secretary
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

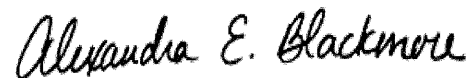
Re: DM 05-172; Responses of Granite State Electric Company d/b/a National Grid to Staff's Topic 2 Follow-Up Data Requests

Dear Ms. Howland:

I am enclosing for filing the responses of Granite State Electric Company d/b/a National Grid to Staff's topic 2 follow-up data requests in the above-captioned proceeding. I have also submitted these responses electronically to the email list in this proceeding.

Please feel free to contact me at (508) 389-3243 with any questions.

Very truly yours,



Alexandra E. Blackmore

enclosures

cc: F. Anne Ross, Esq.
Suzanne Amidon, Esq.
Donald Pfundstein, Esq.
Service List (via electronic mail)

Request Ref 3-1A

Ref 3-1A:

All: Please provide the frequency of pole deliveries by pole yard or location.

Response:

The frequency of pole deliveries to the Salem, Lebanon and Charlestown pole yards is typically one delivery to each location every four to eight weeks. The frequency of pole deliveries can vary by season and project demand.

Request Ref 3-1B

Ref 3-1B:

Electrics: Please provide spare pole inventory by length and class for each pole yard.

Response:

The list below is what National Grid maintains as a minimum quantity in each of the Salem, Lebanon and Charlestown pole yards. As indicated in National Grid's response to Staff 3-1, National Grid accounting records to not record pole class.

Qty	Size
2	30'
5	35'
8	40'
4	45'
2	50'
2	55'

Request Ref 3-1C

Ref 3-1C:

Unitil: Please explain why the number of poles set in the Capital area decreased so much from 2004 to 2005.

Response:

Prepared by or under the supervision of:

Request Ref 3-1D

Ref 3-1D:

All: Please provide the space allocation charts on 35' through 45' joint poles. Please also provide the source for the chart designations.

Response:

The space allocation charts are included as an attachment to Request Ref 3-1D. The source is the National Grid Overhead Construction Standards manual.

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• CONSTRUCTION DRAWINGS	
o Joint Pole Space Allocation	17-100 THRU 17-101
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17.0. GENERAL

This Standard covers the engineering practices for application of poles used jointly by the Company's electric supply facilities and communications company facilities.

If two or more entities must install overhead lines on the same street, it is usually in the public interest to install them on joint use poles. On the Company's system, the terms for this joint use are covered by agreements between the joint users. This Section covers the special requirements for such poles.

Depending on the geographic location of the poles, reference should be made to Electric System Bulletin #101, the applicable Joint Use or Joint Ownership Agreement, the applicable Administrative and Operating Procedures (AOPs) or Intercompany Operating Procedures (IOPs), and applicable Distribution Pole Attachment or Aerial License Agreements for details of ownership, division of costs, division of work responsibilities, rental or licensing fees, and other detailed terms and conditions.

17.1. POLES

17.1.10 General

Contact should be made with the telephone and CATV companies serving the area, to determine their requirement or possible short-term future need for pole attachment space, before poles are installed. Poles should be installed to provide space for foreign or joint use only when there is an agreement with another entity to share use of the pole, in which the other entity agrees to rent or license space on the pole(s) or purchase an ownership interest in the pole(s).

The Company shall not accept the cost of added space without compensation, even when the costs are low. Future plans should be based on the Company needs only, unless there are written commitments from others to rent or license space or to purchase an ownership interest.

After each entity has identified its need for space, new poles shall be selected from the Allocated Space Tables located on Pages 7-100 and 7-101. Joint poles or poles with extra height should be used depending on how these poles meet needs for clearance of all the users that have agreed to rent or license space or to purchase an ownership interest.

The necessity of replacing jointly owned poles shall be mutually agreed on by the joint owners, in writing, in each specific case. Neither joint owner shall at any time change the location of or remove any jointly owned pole without the written consent of the other party.

17.1.20 Pole Strength

The class of pole (pole strength) can be determined from the calculations and Tables in Section 3-Guying for storm guys and Section 2-Poles/Hardware.

This calculation will need the cooperation of the communication facility owner(s) to determine present and future wind loads under heavy loading conditions.

As an alternate practice to installing stronger poles, the line may be guyed for transverse load every second or third pole.

17.2 GUYS

Each entity shall provide guys of sufficient strength to hold the unbalanced load of its own wires and attachments (See Section 3-Guying).

Joint anchors and rods shall be used whenever practical and in any case Distribution Design shall arrange the exact location of each anchor. Triple thimble eyes are the standard anchor rod eye nuts.

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17.3 **CLIMBING SPACE**

Adequate clearances for climbing shall be provided as shown on Page 7-127. Care shall be taken when installing services, street lights, risers, etc. so that full climbing space is available to line workers from both companies.

17.4 **CLEARANCES**

Clearances between communication space and electric supply space attachments are shown on Page 17-102. Reference should also be made to Section 7-Clearances.

17.5 **LOCATION OF ATTACHMENTS**

Cooperative effort is needed to avoid placing heavy communication equipment on power company poles with cable risers or equipment that will make climbing difficult. The appearance of individual poles and the whole pole line should also be considered.

CATV, air dryers, telephone stands, etc., shall be installed on joint poles in accordance with Pages 17-105 thru 17-108 or special drawings approved by Standards Engineering.

In general, avoid placing risers for multiple entities on one pole. When this is not practical, install them per Section 18-Risers as well as Section 48-Risers of the Underground Construction Standards manual.

17.6 **DISTRIBUTION WOOD POLE MOUNTED METERED POWER SUPPLY AND ANTENNA INSTALLATIONS: 20/35 kV MAXIMUM**

17.6.10 **Application**

This Section covers installation details for distribution wood pole mounted, metered, secondary service to power supplies and antenna communication equipment.

17.6.20 **General**

All installations shall be made in compliance with all applicable codes including the National Electrical Safety Code (NESC) and National Electrical Code (NEC), with wiring inspector requirements and with applicable service requirements from the Company's tariffs. Currently, in Massachusetts, New Hampshire and Rhode Island these include the current "Information and Requirements for Electric Service" book and in New York the current "Specifications for Electrical Installations" (ESB 750) book. The communication entity shall contact the Company office serving the area involved and also obtain agreement from all other affected pole occupants and/or owners. The communication entity shall submit all appropriate documentation in a timely fashion to allow for necessary engineering and construction to take place.

17.6.30 **Location**

Poles selected for communication mounted equipment shall be relatively "clean" poles, free of any other major equipment, and accessible by bucket truck throughout the year. Poles with airbreak or loadbreak switches, line reclosers, sectionalizers, capacitors, transformers, risers, major communicators or fire alarm equipment, etc., should be avoided.

17.6.40 **Division of Responsibility**

- A.) A rain tight weatherhead shall be mounted in a location suitable for the Company to form a driplow and to make secondary connections (See Pages 17-108 thru 17-109).

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- B.) Service entrance cables shall be #10 stranded copper, insulated THWN, THHN, or SE conductor suitable for outdoor use. The cable shall include two black insulated conductors and one white insulated conductor and shall extend a minimum of 24 inches beyond the weatherhead to form a driplead and to make secondary connections.
- C.) Electric service conduit shall be 1 inch PVC schedule 40, at a minimum, sunlight and weather resistant as well as direct and weather sealed to the meter socket enclosure. Conduit straps shall not be placed at intervals exceeding 30 inches.
- D.) An approved meter socket shall be installed on the quarter of the pole away from vehicular traffic. The meter shall be a ringless socket sealable style with a safety arc shield and an approved single handle-operation bypass; use of an automatic bypass is not permitted. The meter socket shall be approved by an Authority of Higher Jurisdiction (AHJ) accepted organization concerned with product evaluation and carry the label of that agency. Commercial meter socket installations in New York shall meet ESB 750, Appendix 2 and ESB 751 requirements.
- E.) Bracket system, (Std. Item C39E or equivalent), for mounting the socket to the pole (See Page 17-107). Attach the bracket to the pole with galvanized lag screws and the socket to the bracket with stainless steel bolts, nuts and lock washers. In the event that a 120/208 V meter is installed, a 5th terminal is required.
- F.) Disconnect and overcurrent protection shall be limited to a 30 A maximum service rating and may be located in a separate compartment from the meter socket.
- G.) Grounding shall consist of #4 covered, soft drawn copper down ground (Std. Item W11F), and copper or bronze connectors, and copperclad 5/8 inch diameter x 8 foot length ground rod(s). An additional ground rod shall be installed if it is necessary to lower the resistance to earth. All equipment shall be bonded to the grounding system. The communication company shall leave enough grounding conductor coiled at the location of the weatherhead for final connection by the electric company to their aerial ground wire/system neutral conductor. This ground arrangement shall apply unless local requirements specify otherwise.
- H.) A single power supply shall be located on the back side of the pole away from vehicular traffic with a maximum weight not to exceed 670 lbs. All mounting equipment shall be galvanized steel construction.
- I.) If needed, an antenna shall be mounted via an approved method at the top of the distribution pole. The antenna maximum weight shall not exceed 110 lbs. and the maximum height shall be 104 inches including any mounting hardware. The minimum horizontal clearances between the antenna and any primary conductor shall be as follows.

Voltage	Minimum Clearance
15 KV	12"
34.5 KV	26"

- J.) If needed, a cable shall be directly routed from the antenna to the power supply inside a 2 inch PVC conduit that is schedule 40 minimum as well as sunlight and weather resistant.
- K.) If needed, fiber shall be directly routed from the power supply to the splice box inside a 2 inch PVC riser guard that is schedule 40 minimum as well as sunlight and weather resistant.

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Following the municipal wiring inspector's approval of the construction by others, the Company shall provide all connections to the secondary supply conductors including the communication company's grounding conductor. The Company will also set the meter with a polycarbonate cover.

Note: All work performed in or above the "Communication Worker Safety Zone" shall be completed by an electrically qualified worker meeting NESC and OSHA requirements. Further detail can be referenced in ESB #750 or the Electric Service Information and Requirements documents.

17.7 ALL-DIELECTRIC FIBER OPTIC (ADFO) CABLE IN THE SUPPLY SPACE

17.7.10 General

This fiber section covers the installation of all-dielectric fiber optic (ADFO) communication cables in the supply space of distribution poles with supply line voltages of 34.5 kV or less.

The Company allows the installation of ADFO communication cables in the supply space of distribution poles. Such installations must comply with the requirements detailed below, with the NESC and with any applicable federal, state or local regulations.

Under the NESC, a communication cable may be installed in the supply space; however, such a cable is considered part of the supply space. This means that the Communication Worker Safety Zone requirements between supply space and communication space attachments of 40 inches at the pole and 30 inches at any point in the span, apply when a separate communication space is required on the pole. This also means that workers installing and maintaining this cable in the supply space must meet the more stringent worker training and equipment requirements for work in the supply space. These requirements come from the NESC and OSHA, as well as by state and local regulations.

17.7.20 Approved Installation

Per Company requirements, ADFO cable is the only type of fiber cables that may be installed in the supply space. An ADFO cable is entirely dielectric including being supported on a messenger that is entirely dielectric. The key distinguishing feature of this type of cable is that the entire cable assembly is dielectric. A cable assembly that contains any metallic component is not considered to be all-dielectric.

The other type of fiber cable, an effectively grounded cable, is a communication cable that is supported on a messenger and is effectively grounded throughout its length. In general, the Company shall not allow the installation of any communication cables with a metallic component in the supply space even if that cable is effectively grounded.

17.7.30 Location on Pole

The Company will designate the location on each pole for any communication cables installed in the supply space. In general, this cable shall be the next cable above the existing neutral or secondary cable. Where there are multiple communication cables in the supply space, to the extent practical, this location should be in the same relative position on adjacent poles.

In general, an ADFO cable must be attached to the pole with a 12 inch minimum separation in any direction from the electric neutral or secondary cables and at least 30 inches of separation from any primary electric supply cable or other energized part (See pages 17-110 thru 17-118). A 12 inch vertical separation between the ADFO cable and the electric neutral or secondary cables at the pole is preferred. Where this is not possible, the owner of the communication cable may install an ADFO cable on an offset bracket to obtain a 12 inch minimum horizontal

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separation from the neutral or secondary cable. The bracket should be installed immediately above the neutral or secondary cable and it shall be noted that grounding of this bracket is not required.

17.7.40 **Clearances**

The NESC imposes no minimum clearance requirement between an ADFO cable and some classes of cables in the supply space. In particular, the NESC does not specify clearances between an ADFO cable in the supply space and any other cable in the supply space up to and including, the 15 kV class. The NESC also does not specify clearances between an ADFO cable and supply cables in the 23 kV or 34.5 kV classes where the cables are owned by the same entity. However, the NESC does specify clearance requirements between an ADFO cable and supply cables in the 23 kV or 34.5 kV classes where the cables are owned by different entities.

Where the NESC does not specify clearances, maintaining the ability of all parties to safely work on their cables is still a primary concern. Therefore, ADFO cables shall be installed with a minimum 12 inch separation at the pole, in any direction, from the electric neutral or secondary cables. To allow work on the communication cable without covering the primary electric supply cables or other exposed parts, an ADFO cable in the supply space shall be installed with a 30 inch minimum separation in any direction from any primary cable or other exposed part at the pole.

Where the NESC specifies clearances, at a minimum these clearances shall be followed. This type of installation may be approved by Distribution Design based on a review of the specific proposed installation. If a request for this type of installation is received, consult Standards Engineering for specific applicable requirements.

17.7.50 **Sag and Tension**

An ADFO cable installed in the supply space should be sagged to approximately match the sag of the existing secondary or neutral cable with both cables at final sag condition at 60°F/140°C. The communication cable's owner shall provide the Company with appropriate sag and tension data for the cable used. The owner of the communication cable is responsible for costs associated with the additional space required to accommodate cables that do not follow this recommended practice.

17.7.60 **Worker Qualifications**

The installation, maintenance, modification and removal of cables or equipment in the supply space must be done by workers qualified to work in that space. The owner of the communication cable shall ensure that the parties installing their fiber in the supply space understand and meet the requirements of the NESC (Part 4) and OSHA (Parts 1910 and 1926), and that various states and localities each impose requirements on employers for the training, qualification, equipment and practices of workers in the supply space. The Company expects that the owner of the communication cable will assure compliance with all applicable NESC, OSHA, state and local requirements by the party installing the communication cable(s) in the supply space.

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MASSACHUSETTS, NEW HAMPSHIRE AND RHODE ISLAND					
Pole Length (Feet)	¹ Ownership Percentage (Elec./Comm.)	Normal setting Depth (Feet - Inches)	Communication Maximum Height (Inches)	Electric Minimum Height (Inches)	Electric Maximum Space (Inches)
35	35/35	6'-0"	254"	294"	54"
40	40/40	6'-0"	284"	324"	84"
40	40/35	6'-0"	254"	294"	114"
40	35/40	6'-0"	314"	354"	54"
45	40/45	6'-6"	338"	378"	84"
45	45/45	6'-6"	311"	351"	111"
45	45/40	6'-6"	284"	324"	138"
45	45/35	6'-6"	254"	294"	168"
50	45/50	7'-0"	365"	405"	111"
50	50/50	7'-0"	338"	378"	138"
50	50/45	7'-0"	311"	351"	165"
50	50/40	7'-0"	284"	324"	192"
50	50/35	7'-0"	254"	294"	222"

NEW YORK					
Pole Length (Feet)	¹ Ownership Percentage (Elec./Comm.)	Normal setting Depth (Feet - Inches)	Communication Maximum Height (Inches)	Electric Minimum Height (Inches)	Electric Maximum Space (Inches)
² Poles Set Prior To 1975 And Independent Telephone Poles Set Prior To 1986					
35	35/35	6'-0"	258"	298"	50"
40	40/40	6'-0"	288"	328"	80"
40	40/35	6'-0"	258"	298"	110"
40	35/40	6'-0"	318"	358"	50"
45	45/45	6'-6"	315"	355"	107"
45	45/40	6'-6"	288"	328"	134"
45	45/35	6'-6"	258"	298"	164"
³ Jointly Owned Poles Set After 1975					
35	35/35	6'-0"	268"	308"	40"
40	40/40	6'-0"	276"	316"	92"
45	45/45	6'-6"	299"	339"	123"
45	45/40	6'-6"	276"	316"	146"
45	40/45	6'-6"	330"	370"	92"
⁴ Jointly Owned Poles Set After 1986					
40	35/40	6'-0"	257"	297"	103"
45	45/45	6'-6"	280"	320"	134"
45	45/40	6'-6"	257"	297"	157"
45	45/35	6'-6"	311"	351"	103"

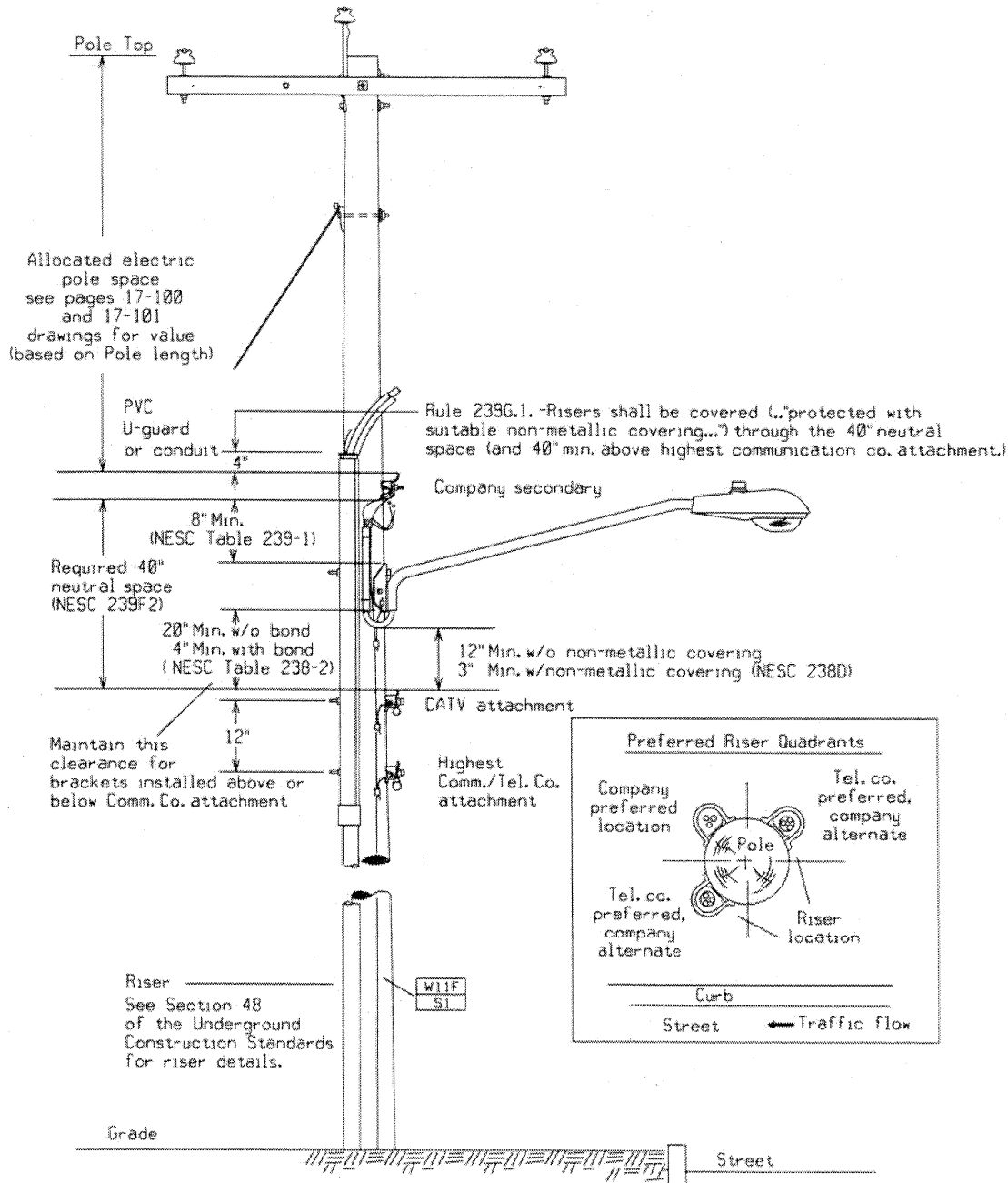
NOTES:

- 45/40 indicates a 45 foot pole where the communication company pays for and occupies the space as if it were a 40 foot joint pole. 40/45 indicates a 45 foot pole where the Company pays for and occupies the space as if it were a 40 foot joint pole.
- Space available on existing jointly owned poles including New York Telephone Company poles set before May of 1975, and Independent Telephone poles set before August of 1986.

JOINT POLE SPACE ALLOCATION			
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3. Allocated space on poles owned jointly with New York Telephone Company Set after April of 1975.
4. Allocated space on poles jointly owned by the Company and Independent Telephone Company set after August of 1986.
5. To minimize pole replacements each party shall rearrange its attachments on existing poles to provide space for the other party, within the limits of each company's construction standards, regardless of allocated space shown.
6. Generally an 18 foot code ground clearance must be observed by the communication companies. If less than 18 feet of ground clearance is required (15 feet required in rear lots), the extra pole space is divided equally between the joint owners 1-½ feet to each. If ground clearance forces telephone companies upwards (say a 3 foot high knoll), each company may be required to give up equal space (1-½ feet) or use a 5 foot higher pole.
7. For determining total space actually usable by the Company, the top 8 inches should be added to the allocated electric utility space.

JOINT POLE SPACE ALLOCATION			
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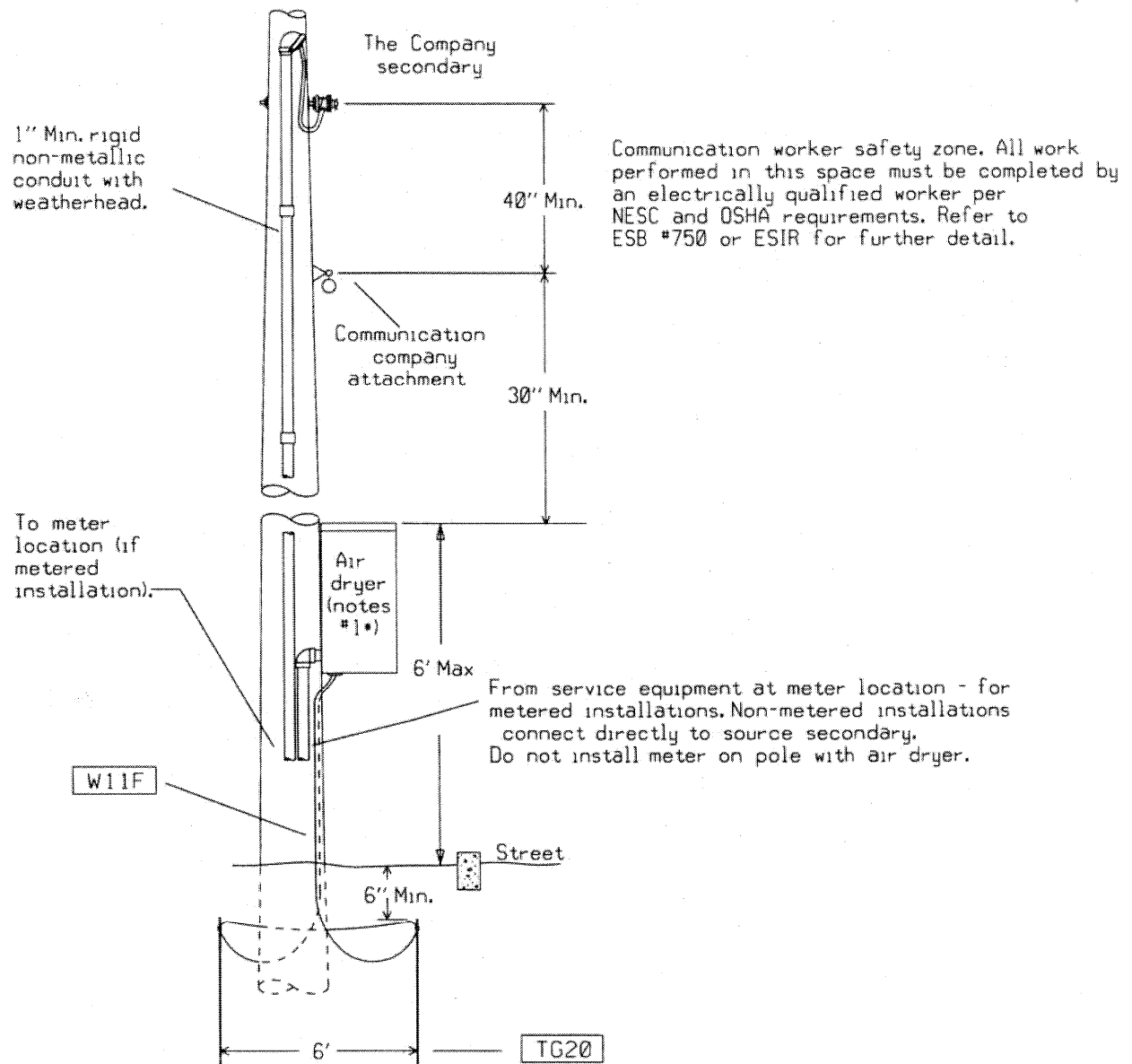


Notes:

- Related NESC References:
 - Rule 220B1 – Preferred Levels... Supply conductors should be carried at the higher level.
 - Table 235-6 – 12\" clearance in any direction between 0 - 8.7 kV supply lines and parallel messengers (i.e. above or below). Also 3\" minimum between communication conductors and 6\" minimum between communication conductors and guys on joint poles.
 - Table 239-1 shows a 2\" minimum for vertical or horizontal 0 - 750 kV conductors from messenger wires or through bolts.
 - Rule 239G6 – Vertical Runs of effectively grounded supply conductors may have a clearance of 1\" from exposed communication company through bolts.
 - Rule 239D – Where within 8' of the ground all vertical conductors and cables should be guarded.
- See Section 19 – Overhead Lighting for additional notes regarding street lights, bracket attachment and restraint and protection of supply conductors. If the street light drip loop is less than 12\" above any communication attachments, cover with flexible conduit and maintain a 3\" minimum clearance from these attachments (NESC 238DJ).
- NESC Table 232-1 prescribes minimum ground clearances for conductors. Refer to Section 7 - Clearances for maximum attachment height, etc.

RELATIVE LEVELS AND SPACING ON JOINT USE POLES – 15 KV

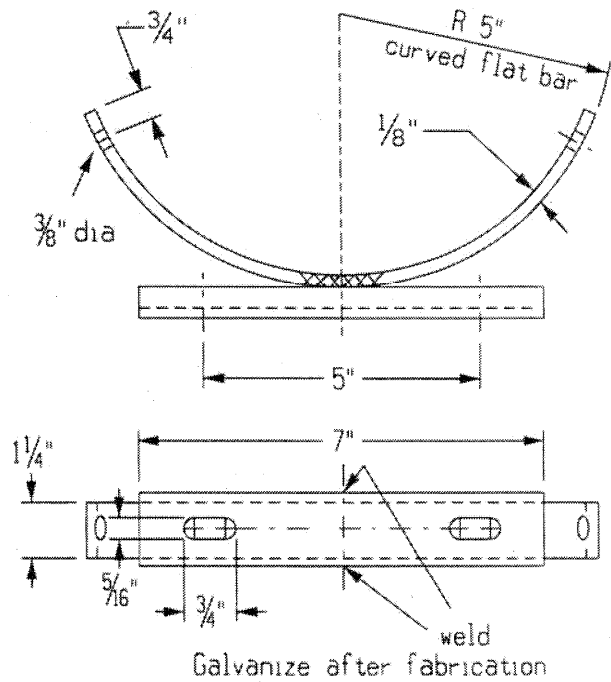
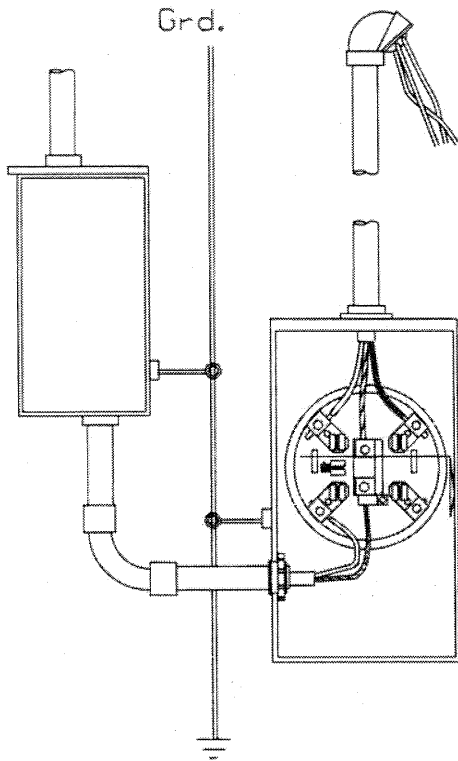
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Note:

1. Air Dryer and attachments (conduit, supply conductor and grounding) shall be furnished and installed by communication company.
2. Avoid dryer installation on poles requiring repeated climbing, junction poles, or poles used for other equipment. Billing metering equipment shall not be located on the same pole.
3. The supply conductor (furnished by communication company) shall be 600V TW cable long enough to extend 3' above the Company secondary.
4. Communication Co. to provide NEC approved service equipment if flat rate billed. If metered, service equipment to be located at meter location. See ESB #750 figure 29, or Information and Requirements for Electric Service Figure 904 depending on location.

COMMUNICATION CO. AIR DRYER INSTALLATION ON JOINTLY OWNED POLES			
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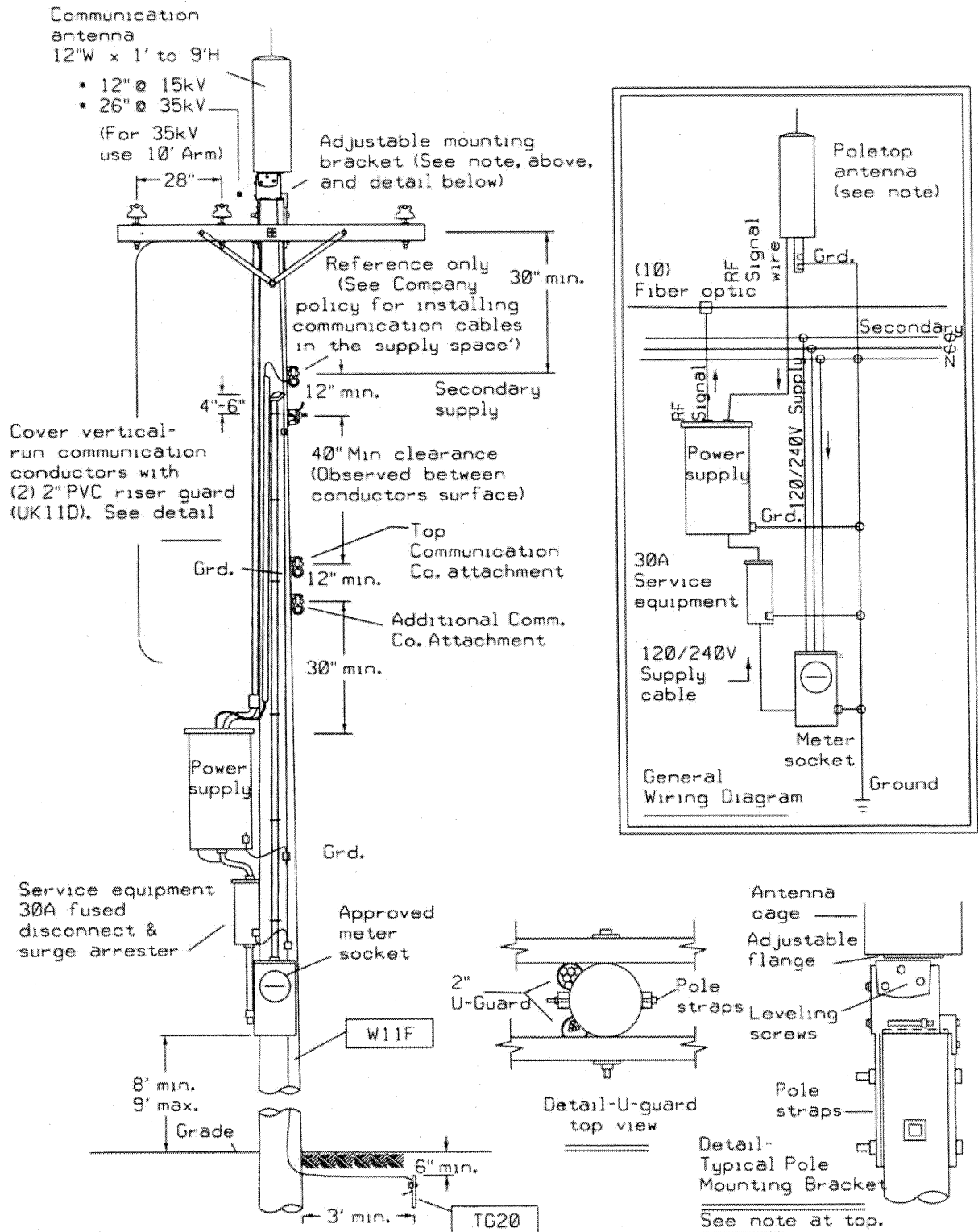
METER SOCKET BRACKET AND CONNECTIONS FOR POLE MOUNTED METER INSTALLATIONS

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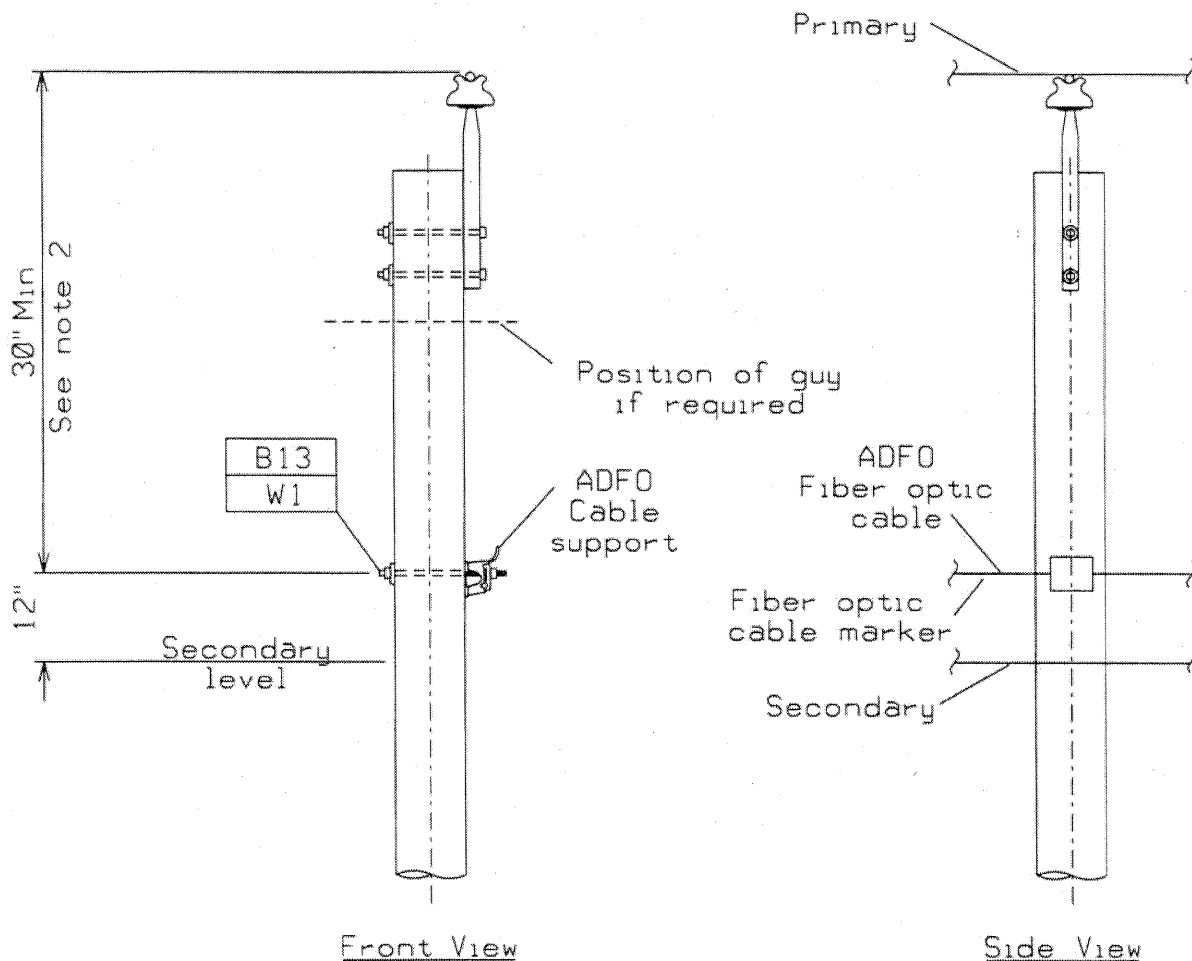
35 KV MAX. DISTRIBUTION WOOD POLE MOUNTED METER POWER SUPPLY INSTALLATION			
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Note:

1. This arrangement is representative of a typical installation. Similar wireless pole top equipment may be accommodated while maintaining the specified clearance requirements. Relocating existing facilities, pole replacement, or installing alternate equipment shall be considered when required.

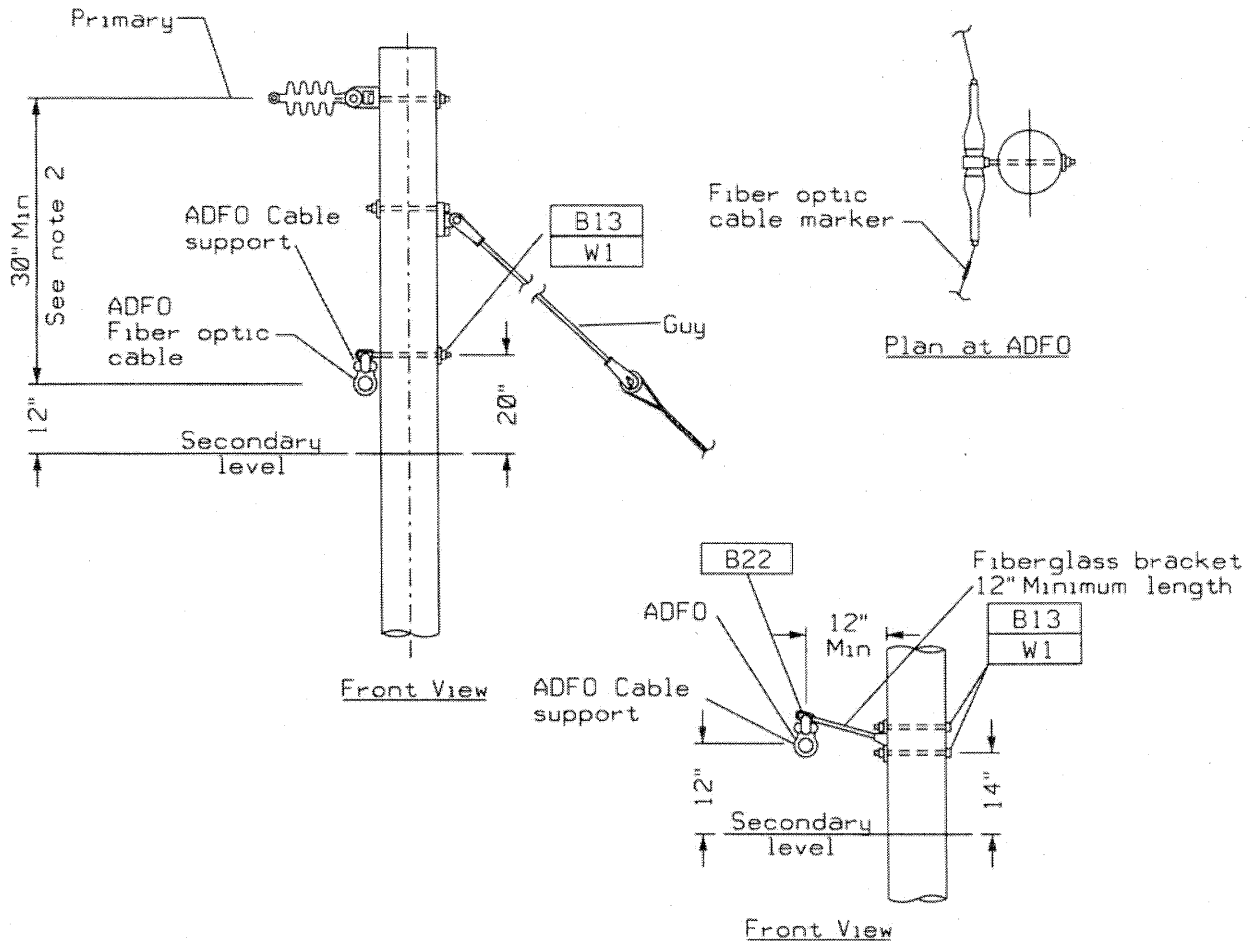
35 KV MAX. DISTRIBUTION WOOD POLE MOUNTED ANTENNA INSTALLATION			
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Notes:

1. Distance between primary wire and ADFO cable shall be a minimum of 30 inches in any direction.
2. Max line angle for ADFO = 20 degrees.

SINGLE PHASE TANGENT WITH ALL DIELECTRIC FIBER OPTIC (ADFO) CABLE BETWEEN PRIMARY AND SECONDARY ATTACHMENTS			
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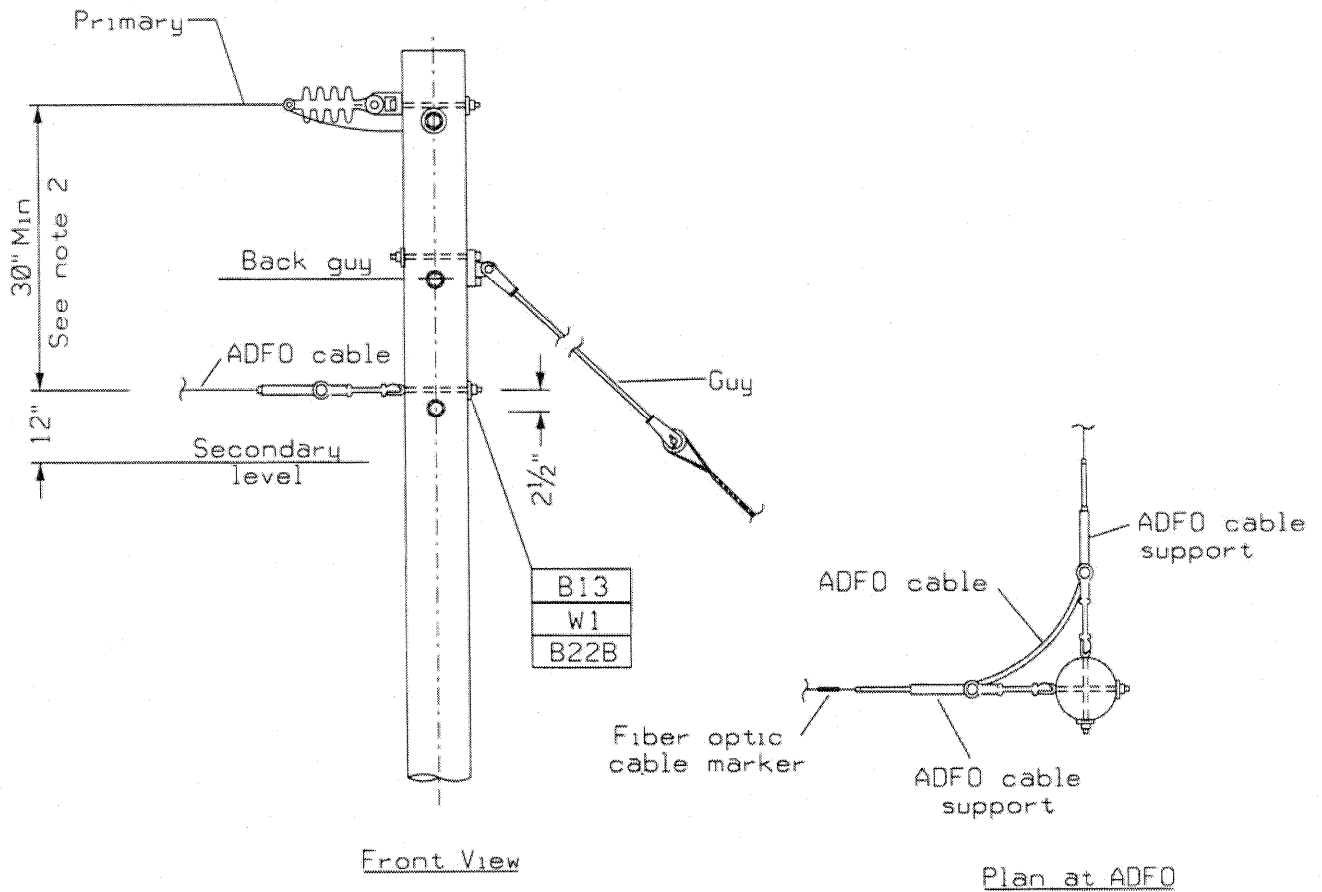


Notes:

1. Distance between primary wire and ADFO cable shall be a minimum of 30 inches in any direction.
2. Max line angle for ADFO = 30 degrees.
3. Item 5, fiberglass bracket. Is for use on tangent and angle structures only. Not for use on deadends.

SINGLE PHASE ANGLE WITH ALL DIELECTRIC FIBER OPTIC (ADFO) CABLE
BETWEEN PRIMARY AND SECONDARY ATTACHMENTS

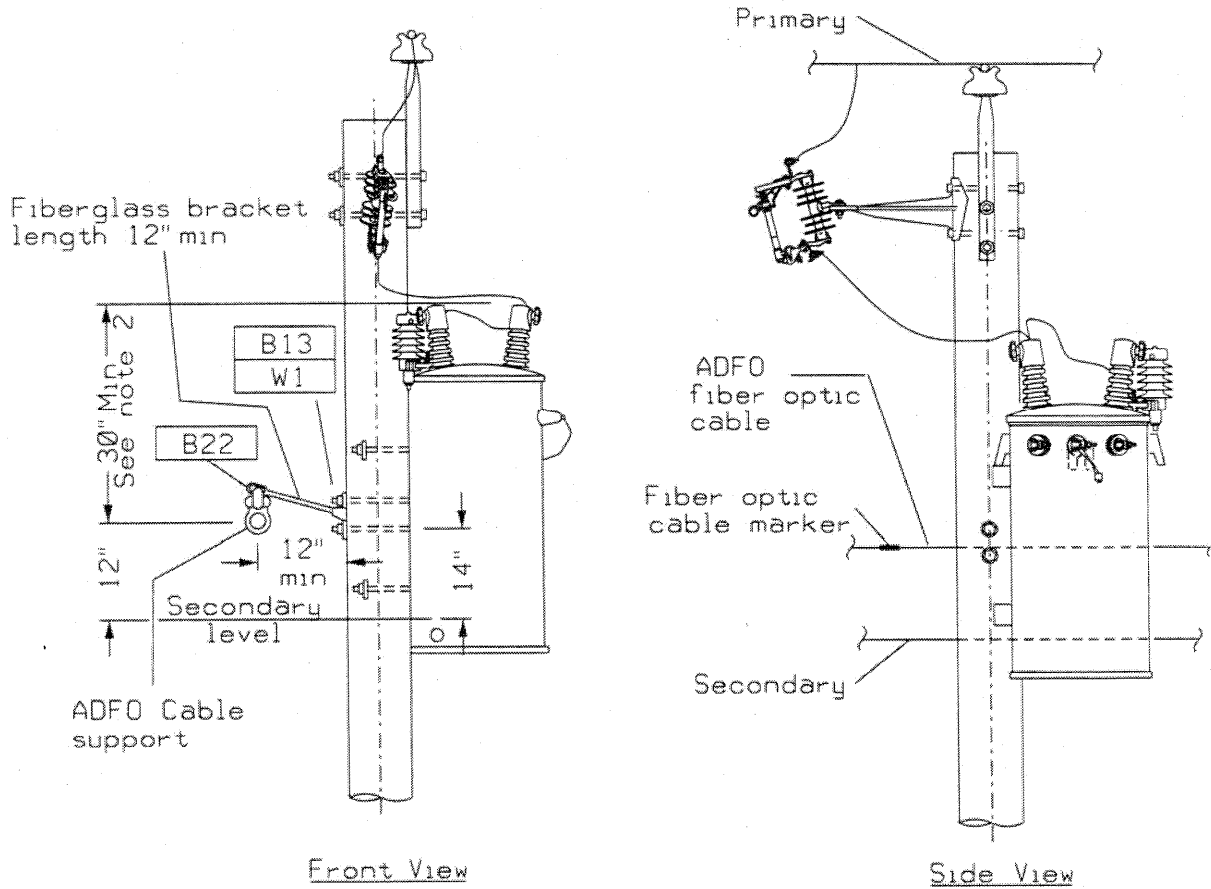
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Notes:

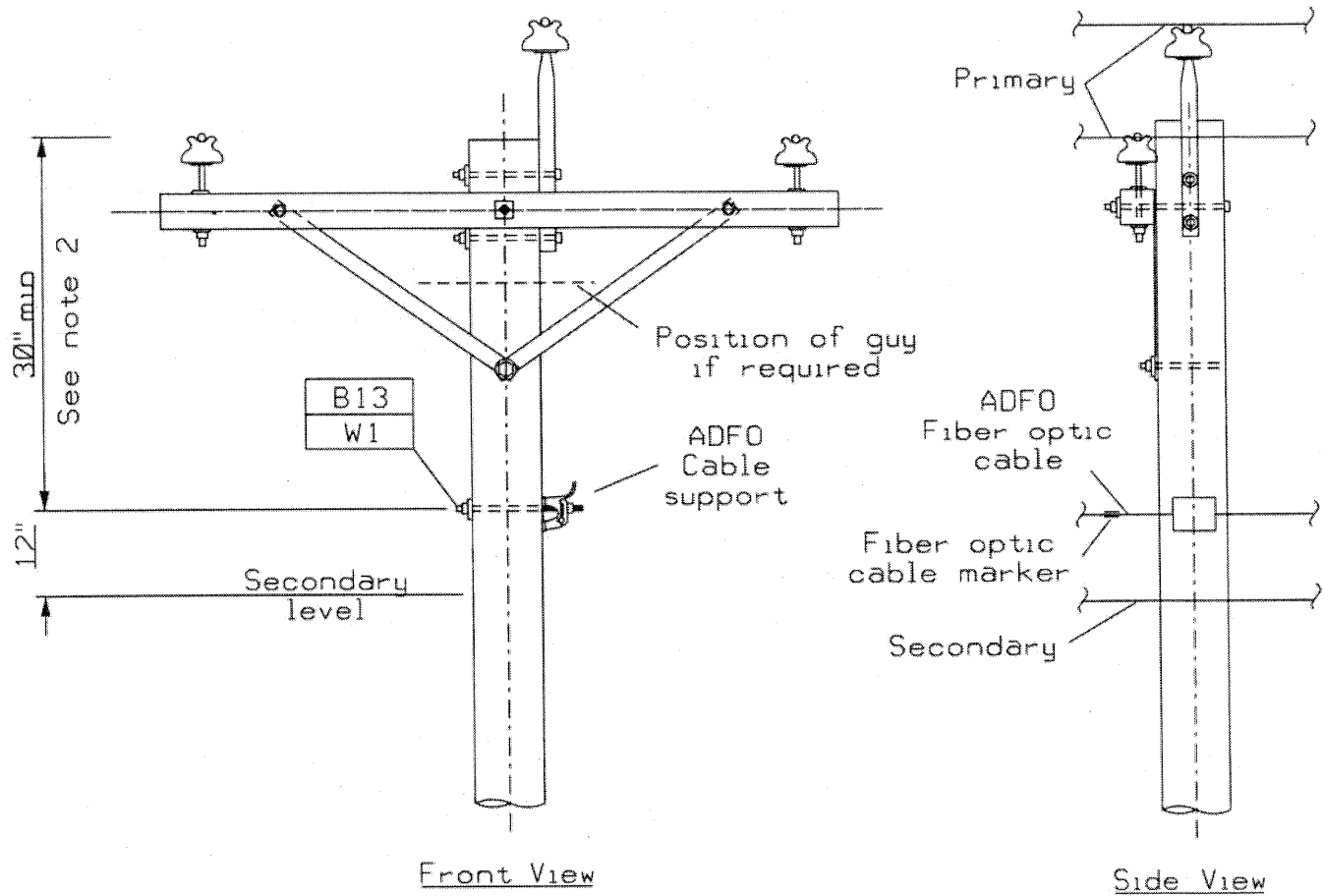
1. Distance between primary wire and ADFO cable shall be a minimum of 30 inches in any direction.
2. Max line angle for ADFO = 90 degrees.

SINGLE PHASE CORNER DEADEND WITH ALL DIELECTRIC FIBER OPTIC CABLE BETWEEN PRIMARY AND SECONDARY ATTACHMENTS			
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- Notes:
1. Distance between primary wire and ADFO cable shall be a minimum of 30 inches in any direction.
 2. Max line angle for ADFO= 30 degrees.

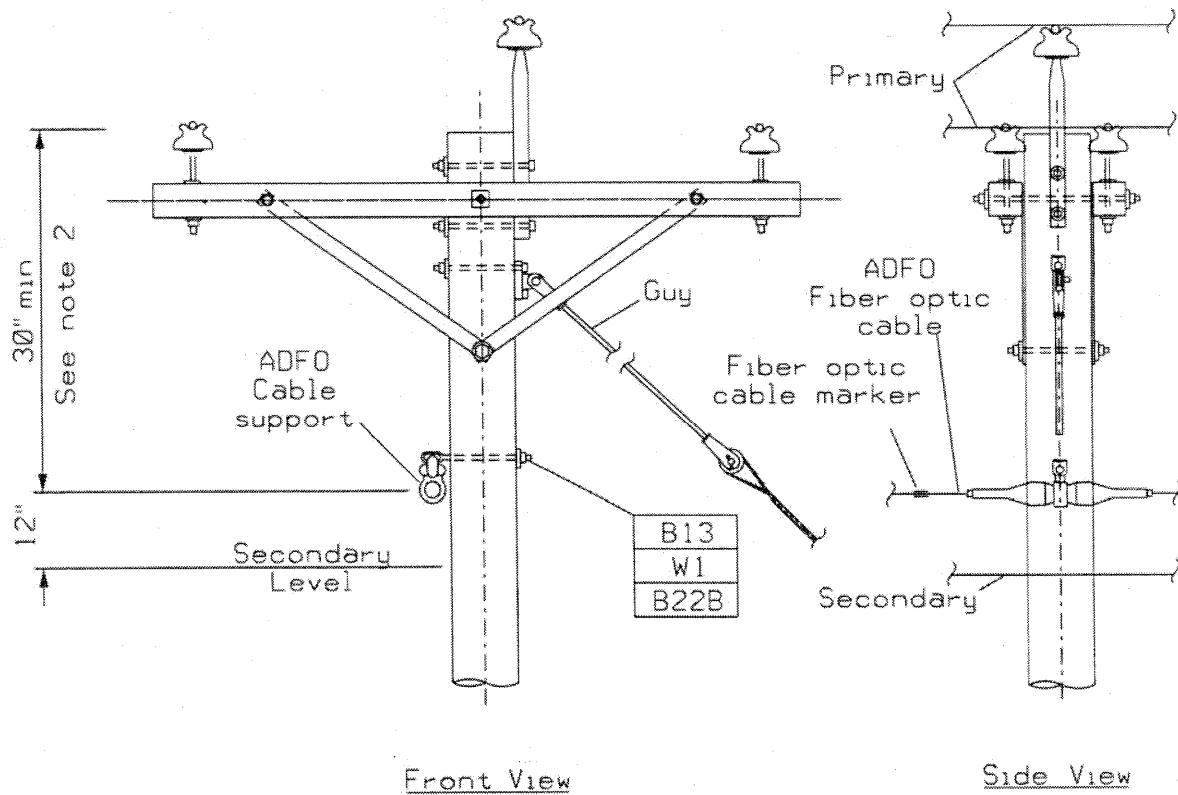
SINGLE PHASE TANGENT WITH TRANSFORMER AND ALL DIELECTRIC FIBER OPTIC (ADFO) CABLE BETWEEN PRIMARY AND SECONDARY ATTACHMENTS			
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Notes:

1. Distance between primary wire and ADFO cable shall be a minimum of 30 inches in any direction.
2. Max line angle for ADFO = 20 degrees.

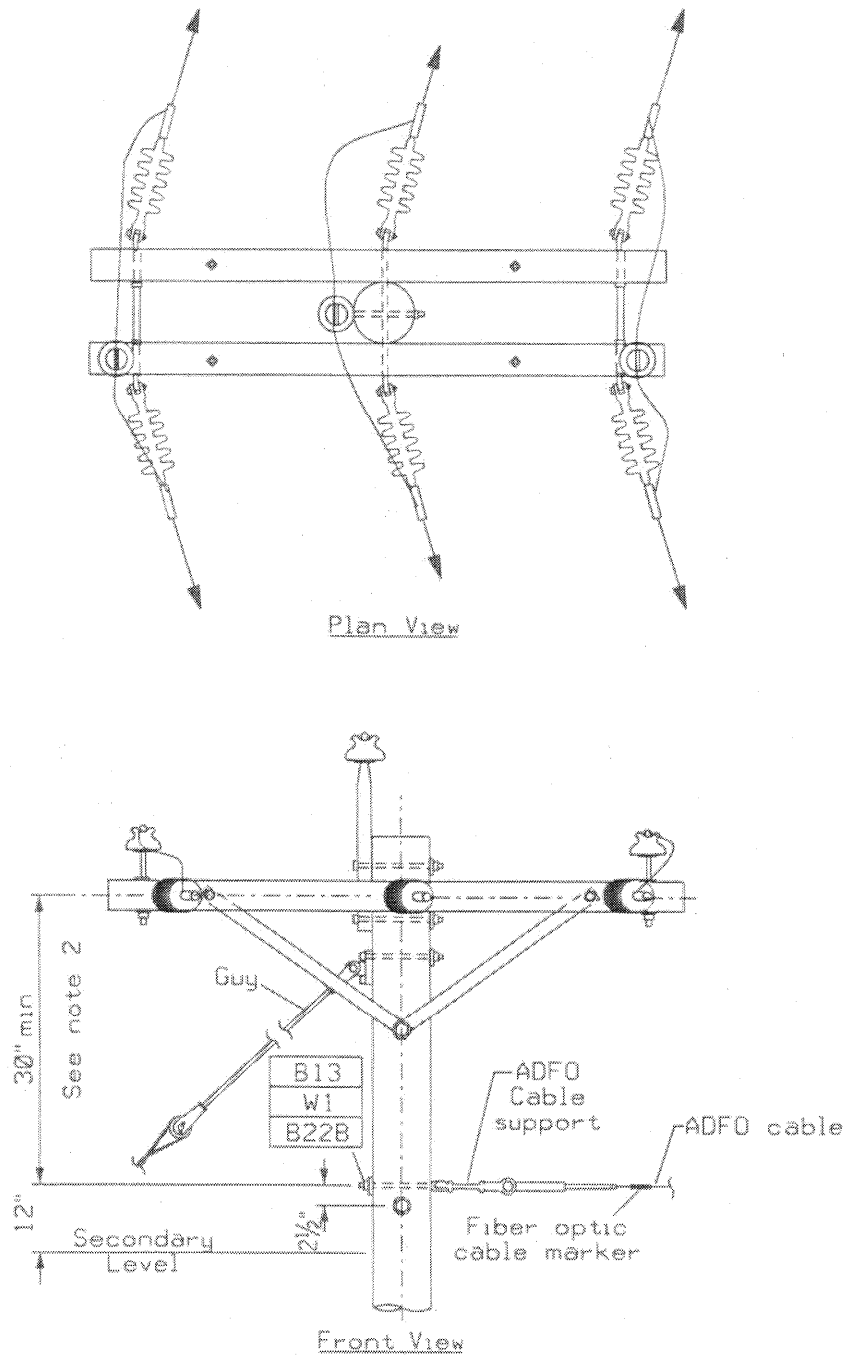
THREE PHASE TANGENT SINGLE CROSSARM WITH ALL DIELECTRIC FIBER OPTIC (ADFO) CABLE BETWEEN PRIMARY AND SECONDARY ATTACHMENTS			
nationalgrid	OVERHEAD CONSTRUCTION STANDARD	PAGE NUMBER	ISSUE
		17-114	1/06



Notes:

1. Distance between primary wire and ADFO cable shall be a minimum of 30 inches in any direction.
2. Max line angle for ADFO = 30 degrees.

THREE PHASE ANGLE DOUBLE CROSSARM WITH ALL DIELECTRIC FIBER OPTIC CABLE (ADFO) BETWEEN PRIMARY AND SECONDARY ATTACHMENTS			
ISSUE	PAGE NUMBER	OVERHEAD CONSTRUCTION STANDARD	nationalgrid
1/06	17-115		



Notes:

1. Distance between primary wire and ADFO cable shall be a minimum of 30 inches in any direction.
2. Max line angle for ADFO = 30 degrees.

THREE PHASE DEADEND DOUBLE CROSSARM WITH ALL DIELECTRIC FIBER OPTIC (ADFO) CABLE BETWEEN PRIMARY AND SECONDARY ATTACHMENTS

nationalgrid

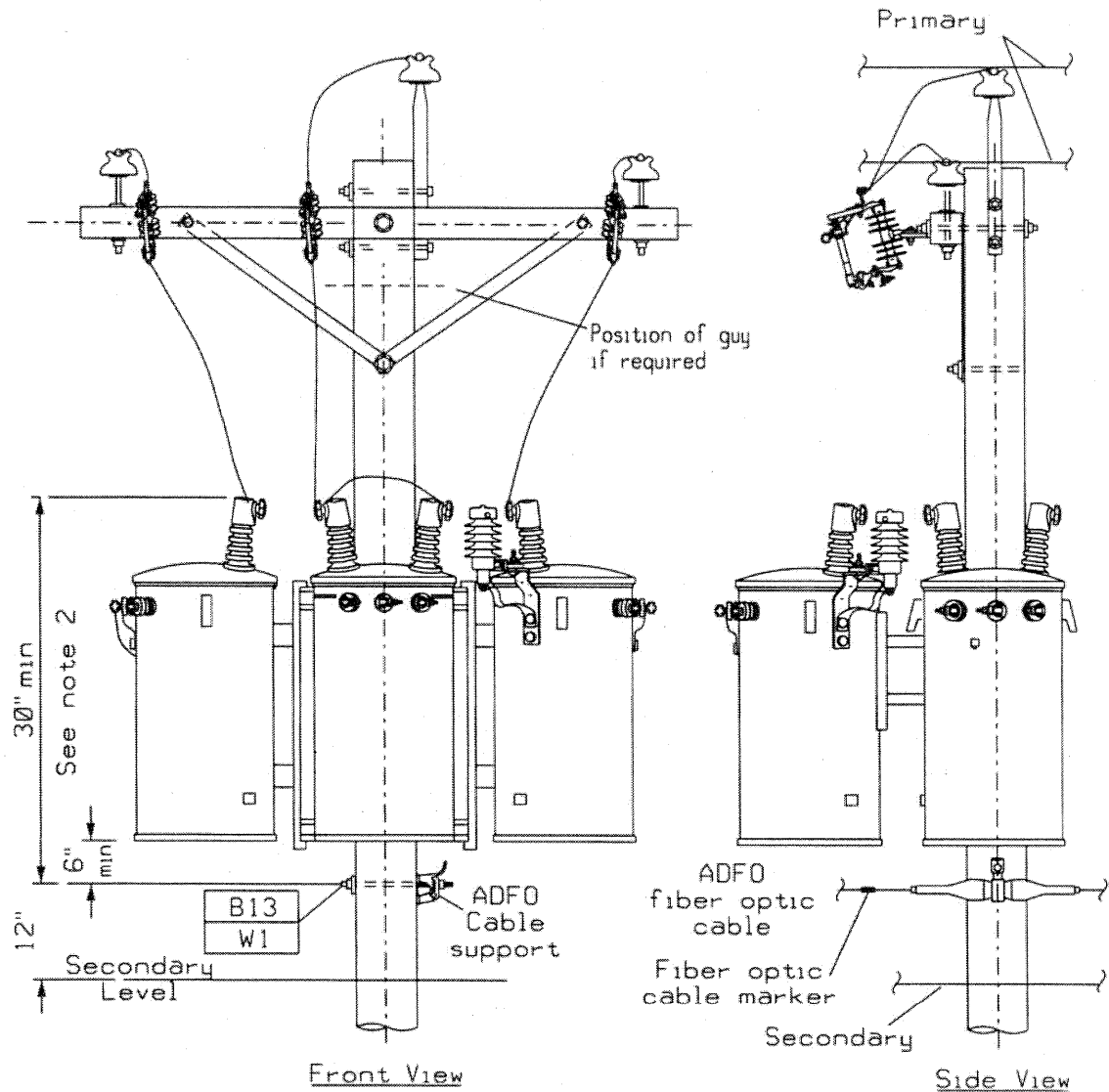
OVERHEAD
CONSTRUCTION STANDARD

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Notes:

1. Distance between primary wire and ADFO cable shall be a minimum of 30 inches in any direction.
2. Max line angle for ADFO = 20 degrees.

THREE PHASE TANGENT WITH TRANSFORMERS AND ALL DIELECTRIC FIBER OPTIC (ADFO) CABLE BETWEEN PRIMARY AND SECONDARY ATTACHMENTS			
ISSUE	PAGE NUMBER	OVERHEAD CONSTRUCTION STANDARD	
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Request Ref 3-1E

Ref 3-1E:

All: Is your company experiencing difficulty obtaining poles for inventory? If so, please state the reason(s).

Response:

National Grid is not experiencing any difficulties obtaining poles from our supplier.

Request Ref 3-3A

Ref 3-3A:

Grid: Please review your response to DR 3-3 and confirm or revise as necessary.

Response:

National Grid's initial response to Staff 3-3 remains accurate and is set forth below.

The retirement of a pole results in a debit to the accumulated reserve for depreciation and a credit to plant in service at the original installed cost of the pole. Accordingly, there is no impact on rate base as the plant is considered to be fully depreciated at the time of retirement.

In a double-pole situation, the old pole is not accounted for as described above until it is actually removed from the ground.

Request Ref 3-5A

Ref 3-5A:

All: What is the average response time to hear back from the joint owner when a request for service involving a new pole set is received? Please provide median and mean response times.

Response:

In the Lebanon District, the average response time to hear back from the joint owner when a request for service involving a new pole set is received is 3 days.

In the Salem District, National Grid is typically not contacted by Verizon when a request is made for a service involving a new pole set. National Grid usually inspects the location to see if the pole is set or contacts Verizon to inquire about the request.

Request Ref 3-5B

Ref 3-5B:

Unitil: Please provide a copy of the letter/correspondence Unitil received where Verizon informed you that future pole sets in the Verizon maintenance areas would take 12 weeks after such requests are received.

Response:

Prepared by or under the supervision of:

Request Ref 3-5C

Ref 3-5C:

Verizon: (the following request is to exclude FTTP work and personnel) Please supply separately the number of hours of your company's line force (listed as 70 in DR 3-4 as of 1/1/05 in New Hampshire) performing regular work and overtime work in New Hampshire by month for the period of January 2005 through the most current month available in 2006. In your response, please break the data down by garage and whether the overtime hours were expended for routine or emergency work.

Response:

Prepared by or under the supervision of:

Request Ref 3-5D

Ref 3-5D:

Verizon: (the following request is to exclude FTTP work and personnel) Please repeat request 3-5C above for personnel performing similar work in New Hampshire from other states.

Response:

Prepared by or under the supervision of:

Request Ref 3-5E

Ref 3-5E:

Verizon: (the following request is to exclude FTTP work and personnel) For the personnel included in request 3-5C above, please supply the maximum number of regular time hours available by month for the period of January 2005 through the most current month available in 2006 assuming no vacations, sick time, etc. and actual regular hours worked.

Response:

Prepared by or under the supervision of:

Request Ref 3-5F

Ref 3-5F:

Verizon only: Please supply the number of line force (listed as 70 in DR 3-4 as of 1/1/05 in New Hampshire) at the beginning of each month for the period of January 2005 through the most current month available in 2006. Please also supply similar information for personnel performing FTTP work.

Response:

Prepared by or under the supervision of:

Request Ref 3-6

All - Please supply the following information regarding time associated with pole setting activities. Your responses should exclude emergency or call-out work and related activities that may be charged to a pole setting job.

Ref 3-6A:

All: The average amount of pole set time in hours currently factored into job scheduling by garage per pole set.

Response:

National Grid's work management system assigns 2.6 man hours per pole set. This is the same for all garages.

Request Ref 3-6

All - Please supply the following information regarding time associated with pole setting activities. Your responses should exclude emergency or call-out work and related activities that may be charged to a pole setting job.

Ref 3-6B:

All: Average travel time in hours currently factored into job scheduling by garage per pole set.

Response:

Travel time is built into the current work management system (please refer to Request Ref 3-6A). An engineer can amend the hours when it is determined that more or less hours are required due to travel.

Request Ref 3-6

All - Please supply the following information regarding time associated with pole setting activities. Your responses should exclude emergency or call-out work and related activities that may be charged to a pole setting job.

Ref 3-6C:

All: The average actual amount of pole set time in hours by garage per pole set for the years 2002 through 2005.

Response:

National Grid does not track actual pole set time in hours. Based on our experience, we set an average of 3 poles per day or 2.6 man hours per pole set.

Request Ref 3-6

All - Please supply the following information regarding time associated with pole setting activities. Your responses should exclude emergency or call-out work and related activities that may be charged to a pole setting job.

Ref 3-6E:

Grid: Please review your responses to DR 1-34 and DR 1-35 and revise as necessary.

Response:

1-34 – amended response:

National Grid's productivity objective for pole replacement is 2.6 man hours per pole set. The compatible unit for pole setting in National Grid's work management system establishes 5.125 hours for a single pole installation.

1-35 – amended response:

National Grid's work management system does not specifically separate or track pole installation time from other time assigned to complete a job. We do manage pole setting activities to obtain the objective of an average of 3 pole sets per eight hour day.

Request Ref 3-7A

Ref 3-7A:

All: please specify the average time it takes for your company to set a solely-owned pole from the day your customer requests a new pole set.

Response:

The average time it takes National Grid to set a solely-owned pole from the day a customer requests a new pole set is approximately 55 days. National Grid routinely experiences uncontrollable delays. Some examples of reasons for delays are: the customer granting us the easement; the easement being drafted and a title search conducted; the customer signing the easement and returning it to us. When these tasks are completed, a pole can be scheduled and set in 5 to 10 days.

Request Ref 3-7B

Ref 3-7B:

All: Please specify the average time it takes for your company to set a jointly-owned pole from the day your customer requests a new pole set.

Response:

Please see National Grid's response to Request Ref 3-7A.

Request 3-7C

Ref 3-7C:

All: Please specify the average time it takes for your joint pole owner to set a jointly-owned pole from the day your customer requests a new pole set.

Response:

The average time it takes for our joint pole owner to set a jointly-owned pole from the day our customer requests a new pole set is approximately 90 days. This varies by engineer and job.

Request Ref 3-8A

Ref 3-8A:

All: What is the prioritization policy for pole sets by garage or work area? If written, please provide that policy. How does management ensure the policy is enforced?

Response:

The priority for pole sets is determined by a need date that has been established by the customer and the National Grid engineer. The need dates are managed through the scheduling process. Scheduling meetings are held weekly by the Area Resource Coordinator with engineers and department supervisors.

Request Ref 3-9A

Ref 3-9A:

3-9A. **All:** For the double poles identified below it is requested that the applicable electric company and Verizon provide the following:

- A copy of the initiating contact memo between the electric company and Verizon identifying the need for the pole replacement.
- The actual date of the new pole installation.
- The actual date of the electric company transfer.
- The specific date of the fire alarm transfer, if applicable.
- The specific date of the CATV transfer, if applicable.
- The scheduled/pending date of telephone plant transfer.
- The scheduled/pending date of the old pole removal.
- Copies of all work orders and correspondence between all involved Parties including cable television, municipal and state agencies from the inception of each pole replacement up to the current status.

Minot Street, Concord

Verizon Pole # 302/1

Unitil Pole # 1

New Pole: 35 foot class 4 – date stamped 2001

Verizon plant awaiting transfer all others have transferred.

Ridge Road, Concord

Verizon Pole # 9/4

Unitil Pole # 3

New Pole: 40 foot class 4 – date stamp 12-04

Verizon, Fire Alarm & CATV have not transferred (old pole tagged condemned at base by Unitil).

Ridge Road, Concord

Verizon Pole # 9/18

Unitil # 17

New Pole: 35 foot class 4 – date stamped 2002

Verizon & CATV have not transferred.

Centre Street, Concord

Verizon Pole # 2/ 40

Unitil Pole # 40

New Pole: 40 foot class 4 – date stamped 2000

Verizon & CATV have not transferred.

East Side Drive, Concord

Verizon Pole # 175/15

Unitil Pole # 15

New Pole 45 foot class 3 – date stamped 2003

Verizon plant awaiting transfer all others have transferred.

East Side Drive, Concord

Verizon Pole # 175/16

Unitil Pole # 16

New pole 45 foot class 3 – date stamped 2003

Verizon plant awaiting transfer all others have transferred.

Court Street, Dover

A person notified the OCA that a double pole exists in front of 91 Court Street, with the numbers 46-20 marked on the pole. The verbatim from the reporting person is that about September 2000 either PSNH or Verizon placed a new pole. PSNH transferred to the new pole during the fall of 2000 and topped the old pole. CATV made its transfer about two years after PSNH. Verizon made its transfer during the fall of 2005. As of April 4, 2006 the old pole remained next to the new pole with no facilities remaining on it.

Response:

This question is not applicable to National Grid.

Prepared by or under the supervision of:

Request Ref 3-9B

Ref 3-9B:

Verizon only: Please separately state the specific reasons why Verizon did not meet its 400 net pole removal requirements in 2003 and 2005 as stated in DR 3-20. If increased workload by NHDOT or municipal projects are part of your response, please explain why the equally heavy pole set years of 2002 and 2004 were not similarly impacted for pole removal and why the reduced pole setting year of 2005 did not see improvement. If reduced supply of removal ready poles is part of your response, please reconcile that statement with DR 3-23 which states that 3356 dual poles (of 5479) have been pending transfer for more than one year and should therefore be ready for removal and the fact that the number of dual poles increased in 2005.

Response:

Prepared by or under the supervision of:

Request Ref 3-11A

Ref 3-11A:

PSNH only: Please explain how PSNH's practice of over-lashing the secondary to the neutral conforms to the NESC.

Response:

Prepared by or under the supervision of:

Request Ref 3-11B

Ref 3-11B:

All: Please provide any written policy regarding your over-lashing practice.

Response:

National Grid does not over-lash and does not have a written policy regarding the practice.

Prepared by or under the supervision of: David C. Way

Request Ref 3-11C

Ref 3-11C:

NHDOT only: Please provide any data that show delays in construction due to electric company or Verizon delays, by utility and project, for 2002-2005. Please provide the delays by number of weeks and any increase in cost due to the delays. Please state whether NHDOT sought reimbursement for any such cost increases due to construction delays and from whom any such reimbursements were received. If so, has that had any impact on the process?

Response:

Prepared by or under the supervision of:

Request Ref 3-26ARef 3-26A:

All: Please provide the number of danger trees removed by year from 2000-2005. Of the total, please indicate how many removals involved joint owner participation and how many were paid by the joint owner.

Response:

YEAR	Haz Trees Rmvd	Joint Rmvls Approved	Amt Paid by Joint Owner
2000	414	38	\$8,500
2001	328	84	\$12,600
2002	391	0	\$0
2003	441	2	\$3,100
2004	383	0	\$0
2005	284	0	\$0
			\$24,200

Request Ref 3-26B

Ref 3-26B:

Verizon only: Please supply the trimming dollars included in rates from Docket DT 89-010 broken down into expensed normal maintenance trimming, expensed danger tree removal, and trimming or tree removal that is associated with construction which is capitalized. Also, as part of your response, please supply the actual expenditures for each category from 1990 through 2005.

Response:

Prepared by or under the supervision of:

Request Ref 3-26CRef 3-26C:

Electrics only: For the years 2000 through 2005, please supply:

The number of danger trees identified

The number of danger trees that Verizon agreed to participate in removing

The number of danger trees that Verizon declined to participate in removing

The number of danger trees still awaiting a reply from Verizon

The number of danger trees removed, broken out between electric company and Verizon

Total cost of removal of danger trees

The dollar amount reimbursed by Verizon according to your individual agreements.

Response:

YEAR	Nbr Danger Trees Identified	Joint Rmvs Requested	Joint Rmvs Agreed To	Joint Rmvs Denied	Nbr Req Not Responded to	Nbr Danger Trees Rmvd by Elec	Tot Cost of Danger Tree Rmvl	Amt Reimbursed by Verizon
2000	414	38	38	0	0	376	\$21,916	\$8,500
2001	328	123	84	26	13	244	\$58,680	\$12,600
2002	391	53	0	27	26	391	\$55,257	\$0
2003	441	27	2	7	18	439	\$92,074	\$3,100
2004	383	0	0	0	0	383	\$104,206	\$0
2005	284	0	0	0	0	284	\$82,061	\$0
Totals	2241	241	124	60	57	2117	\$414,194	\$24,200

Agreement requires 50/50 cost share

Request Ref 3-27ARef 3-27A:**Electrics:** Please provide reliability stats by voltage level 2000-2005.Response:

With Exclusions		kV		
year	Data	5	15	25
2000	SAIFI	0.000	0.962	0.391
	SAIDI	0.061	55.506	13.924
	CAIDI	193.667	57.684	35.614
2001	SAIFI	0.001	1.204	0.000
	SAIDI	0.112	119.200	0.000
	CAIDI	171.840	98.981	0.000
2002	SAIFI	0.000	1.613	0.040
	SAIDI	0.018	151.168	3.155
	CAIDI	102.571	93.696	78.000
2003	SAIFI	0.001	1.347	0.006
	SAIDI	0.139	97.566	0.289
	CAIDI	119.000	72.428	51.000
2004	SAIFI	0.001	1.549	0.039
	SAIDI	0.246	249.970	4.556
	CAIDI	281.429	161.367	117.000
2005	SAIFI	0.002	1.933	0.043
	SAIDI	0.981	342.658	3.516
	CAIDI	480.073	177.283	82.000

Including All Interruptions		kV		
year	Data	5	15	25
2000	SAIFI	0.000	0.962	0.391
	SAIDI	0.061	55.506	13.924
	CAIDI	193.667	57.684	35.614
2001	SAIFI	0.001	1.066	0.000
	SAIDI	0.112	83.843	0.000
	CAIDI	171.840	78.662	0.000
2002	SAIFI	0.000	1.328	0.040
	SAIDI	0.018	120.756	3.155
	CAIDI	102.571	90.945	78.000
2003	SAIFI	0.001	1.347	0.006
	SAIDI	0.139	97.566	0.289
	CAIDI	119.000	72.428	51.000
2004	SAIFI	0.001	1.175	0.039
	SAIDI	0.156	118.253	4.556
	CAIDI	189.758	100.659	117.000
2005	SAIFI	0.001	1.488	0.043
	SAIDI	0.649	181.779	3.516
	CAIDI	456.860	122.200	82.000

Request Ref 3-27B

Ref 3-27B:

Verizon: For each question asked in set 3 where Verizon stated that the information requested is not kept in the ordinary course of business, please explain why that information is not kept in the ordinary course of business (*e.g.*, the data are aggregated and cannot be disaggregated).

Response:

Prepared by or under the supervision of:

Request Ref 3-27C

Ref 3-27C:

All: If an electric company is constructing a new line addition in a Verizon set area, who would be responsible for the trimming and to whose specs? Are applicable specs laid out in the IOP?

Response:

Verizon would be responsible to initiate the trimming in their set area to the electric company specifications as the electric company pays the higher percentage of the cost.

There is no mention of specifications in the current IOP, although we each have a copy of the other's requirements.

Request Ref 3-27D

Ref 3-27D:

Verizon only: When Verizon plans 4X4 trimming for new cable placement, when does it ask the joint owner whether that joint owner wants to participate in trimming? If Verizon doesn't ask, why not?

Response:

Prepared by or under the supervision of:

Request Ref 3-27E

Ref 3-27E:

Electrics only: Please explain in detail how your company determines when a total circuit requires maintenance trimming by distribution voltage class level. If reliability performance is part of your response, please specifically and separately state how both frequency and duration is factored into your decision for permanent faults and how the frequency of momentary outages is factored into your decision.

Response:

National Grid does not differentiate trimming cycles by voltage. All of our NH feeders are on a 5 year cycle for trimming. In addition to cycle trimming we also perform hazard tree removal to enhance reliability performance.

All feeders are ranked on a cost per change in reliability performance (\$/Δ CMI) basis. By using customer minutes interrupted, the company is considering both the customers and the duration of interruption in the selection of circuits to address.

Request Ref 3-27F

Ref 3-27F:

Electrics only: Please explain in detail how your company determines when a total circuit or portion of a circuit requires hot spot trimming by distribution voltage class level. If reliability performance is part of your response, please specifically and separately state how both frequency and duration is factored into your decision for permanent faults and how frequency of momentary outages is factored into your decision.

Response:

National Grid does not differentiate spot trimming work by voltage. All of our NH feeders are on a 5 year cycle for trimming. In addition to cycle trimming we also perform hazard tree removal to enhance reliability performance.

Spot trimming is utilized on a limited basis. The need for spot trimming is determined by field reviews completed by National Grid's local arborist. The field review may be initiated as a post-event outage review, field inspection record from National Grid line personnel or customer/municipal contact.

Request Ref 3-27G

Ref 3-27G:

Electrics only: As part of your quarterly reliability submittals to the NHPUC, each company tracks a proxy for momentary outages. Please explain how this information is used in your maintenance trimming and hot spot trimming decisions. If this information is not used, please explain why not.

Response:

The version of the Rule 300 that was adopted in 2005 does not require companies to report quarterly information on momentary interruptions. National Grid has removed the fast trip on most reclosers and breakers so that far fewer momentaries are experienced on our system. The Company does not use this information for trimming decisions.